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*From Dr. James J. Levick.*

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# EPIDEMIC INFLUENZA

OF

1861 AND 1863,

AND OF

1889-90.

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REMARKS

ON THE

EPIDEMIC INFLUENZA

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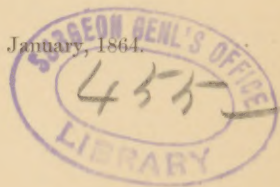
WITH NOTICES OF SOME MALIGNANT FORMS OF THIS DISEASE.

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BY JAMES J. LEVICK, M. D.

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WITH BRIEF NOTES OF THE INFLUENZA OF 1889-90.

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I HAVE been asked by several of my younger medical friends to reprint this essay, written nearly twenty-seven years ago, but which has interested them at this time because of the prevalence here and in Europe of an epidemic of Influenza. In doing so it will be seen that no new thing has happened in the influenza of this year, but that in its ordinary symptoms, and even in its anomalies, the epidemic of 1889-'90 corresponds with that of 1861-'63 as indeed it does with the epidemics of more than three centuries.

In a few brief foot notes I have referred to the present epidemic and have again called attention to the close relationship which I fully believe exists between epidemic influenza and epidemic cerebro-spinal meningitis. This is a matter which has interested me from the first writing of this paper and which I think deserves the thoughtful consideration of the Profession.

I have urged on my younger friends, for whom this reprint is prepared, great simplicity in the treatment of this disease, and especially the avoidance or the very cautious use only, of those depressing agents which are now so much used both within and without the Profession, to the great danger of human life.

J. J. L.

PHILADELPHIA, 1200 Arch Street,  
*January, 1890.*



## REMARKS ON THE EPIDEMIC INFLUENZA OF 1861 AND OF 1863. \*

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From the early part of December, 1860, to the latter part of March, 1861, there prevailed, with varying intensity, in the city of Philadelphia, a wide-spread epidemic of influenza. After an absence of nearly two years, this disease suddenly reappeared in the early part of the present year, and has existed among us, more or less to the present time.

Full notes of the cases coming under his care are in possession of the writer; from these the following summary has been compiled, which is offered as a contribution to the history of this most interesting disease. If the facts thus recorded furnish but little that is new respecting influenza, they may, at least, possess some value as another illustration of the words of Dr. Theophilus Thompson, who, writing of influenza, in the year 1852, remarks: "Nothing can more forcibly prove the definite character of the influence which produces this disease, than the similarity of the symptoms during several centuries, and under such different degrees of civilization. We find the affection, in our comparatively luxurious days, manifesting the same phenomena as it exhibited when the presence chamber of sovereigns was strewed with straw, the entrance of aristocratic mansions obstructed with decaying vegetable matter, and a lantern required at night to guide the wary steps of the citizen through the 'slabby streets' of the metropolis."

As observed by the writer, the influenza of 1861-3, attacked chiefly adults, and was especially severe in the aged and infirm.<sup>1</sup>

The disease, in its invasion, was very sudden, beginning with a feeling of coldness, sometimes, though not always, amounting to a fully developed chill, it was soon attended with severe pains in the loins and limbs, "pains in the bones," as the patients termed them, achings, soreness, and a sense of general weariness. These were followed by some heat of skin, not great; a frequent, but compressible pulse; the tongue covered with a white, or brownish-white fur, in some instances the tip of the tongue of a bright red color, as if scalded. With the febrile

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<sup>1</sup> This though to some extent true in the present epidemic (1889-90) is not entirely so. Many children suffered from it, and very severe cases occurred among the young and vigorous.—*Note to Reprint.*

symptoms there were, in many cases, *intense headache*, and a sense of fulness, and soreness of the head increased by jars or other sudden movements. Insomnia, and, occasionally, a busy delirium, resembling that of mania-a-potu, were present in some instances. A feeling of roughness in the throat, accompanied by a well-marked redness, was present in many, but not in all cases. There was soreness beneath the sternum and ensiform cartilage, and great præcordial and epigastric distress, with nausea, and an utter loathing of food. As a rule, the bowels were constipated, but, in one or more instances, diarrhœa, interchanged with pulmonary disturbance. Cough and dyspnœa, in varying degree, were present in the majority, but not in all of the cases. The bronchial secretion was very tenacious, and somewhat discolored; patients complained greatly of the difficulty in raising it. The physical signs varied, but, in the more severe cases, there was slight dulness on percussion, with sonorous, sibilant, and coarse, subcrepitant rales, and evidences in some instances of capillary bronchitis, or, of an imperfectly developed pleuro-pneumonia. In the earlier stages, as has been intimated, the skin was dry and warm, with other phenomena of febrile disease, but in no instance was there high arterial excitement; the pulse, though reaching 100, or even 120, was soft and compressible. These symptoms continued, as a rule, for several days, after which the skin became moist, and profuse perspirations occurred, especially at night. In some instances, these appeared to be critical, but it was not until the tongue began to clear that the convalescence could be pronounced. A *tendency to perspirations* continued even after the patient had got out again.

A heavy, *febrile odor*, at once perceived on entering the room, was noticed in nearly all the cases. The disease appeared to have imperfectly developed remissions in the morning, and exacerbations in the evening. In some instances, these were very well marked.<sup>1</sup>

The urine was scanty, in some instances very turbid and high colored, and, as the disease advanced, deposited a copious sediment.

A constant and very characteristic symptom of this epidemic was the sudden and intense *mental depression* in nearly all the cases noted. In many instances, this depression of spirits was such that strong men moaned and wept like children, and, though in vigorous health up to this attack, utterly despaired of recovery. This feeling of despondency was variously expressed, patients complaining that they were "completely used up," felt "like a wet rag," were "utterly, utterly wretched!"

While these were the ordinary phenomena of the disease, various

<sup>1</sup>This odor, though present in some instances, was less marked in the epidemic of this winter (1889-90). It is, however, I find noticed by a recent writer in *The New York Medical Record*.—Note to Reprint.



*anomalous symptoms* occasionally presented themselves, associated with, or seeming to possess, a close relationship with those already enumerated. Among these, were swelling of the parotid and other glands, earache, buzzing, and other sounds in the head, giddiness, intense pain in one eye, soreness, in one instance, exquisite tenderness of the abdominal muscles, simulating peritonitis. One case occurred of acute arthritic disease, presenting, in other respects, the symptoms of influenza, running a similar course to this disease, and amenable to similar treatment.<sup>1 2</sup> Other diseases appeared, indeed, to be modified by the epidemic influence, putting on, as it were, the livery of influenza.

The duration of the disease varied. In the mildest cases, convalescence began on the third day, or earlier; while in a severe case, not until the fourteenth. Valetudinarians and the aged were left greatly shattered by an attack of it.

As it presented itself in the late epidemics, the disease was liable, in the beginning, to be confounded with typhoid (enteric) fever, from the

<sup>1</sup> This case, though the propriety of classing it with the others may well be doubted, was an interesting one, and may be worth giving in detail. J. C., a medical student, æt. 28, had been called up a night or two preceding—was seized with a chill, and severe pain in the back and limbs. On the next day, the ankles and knee-joints were much swollen, of a dull red color, with little or no increase of heat, pulse 84, the tongue covered with a white creamy fur. Patient complained of pain, and inability to void his urine. On the following day he was entirely unable to move the lower half of his body, the joints very painful. There was no cough, the skin was of a decided yellow hue, and the general appearance of the patient, and the odour emitted from the body and the breath, recalled that of a case of yellow fever. There was, however, nothing in the previous history of the patient, a large and vigorous young man, to justify an unfavorable prognosis. Active catharsis was avoided, and lemon juice every two hours was prescribed, and the solution of morphia at bedtime. On the following day, a sudden and profuse hemorrhage from the kidneys occurred, and the condition of the patient became an alarming one; total inability of movement continued. An irregular papulous eruption now appeared on the forehead and parts of the body. The sulphate of quinia (gr. xviii in three grain doses every hour) was now given, lemon juice continued, and essence of beef administered. In the evening the patient was rather more comfortable, urine still bloody. The quinine was continued next day with marked benefit. On the next day, the patient moved his limbs without difficulty, and, one day later was walking about his room. He had at no previous time suffered from rheumatism, and if this attack was one of acute rheumatism, its symptoms, and its course, were greatly modified by the prevailing epidemic influence.

<sup>2</sup> In the present epidemic (1889-90) I have seen several cases of this rheumatoid form of the disease, affecting not so much the joints as the muscles, abdominal and others, a persistent muscular rheumatism.—*Note to Reprint.*

character of the pulse, the appearance of the tongue, the headache, and, in some instances, the occurrence of epistaxis and diarrhœa. From this disease it was generally distinguishable by its sudden invasion, the absence of the characteristic eruption, the briefness of its duration. From ordinary catarrh it was recognizable by the great constitutional disturbance, *especially of the nervous system*, entirely disproportionate to the extent of the local disease.

It resembled, in many of its symptoms, the disease known as the *Dengue*, and corresponded very closely to the description of "the mountain and wintry fevers," epidemics of our remote Western States.

The treatment adopted by the writer, in this epidemic, was a mustard emetic, if nausea, with ineffectual attempts at vomiting existed, a mild mercurial purge, the solution of citrate of potassa, in the form of the effervescing draught; solution of morphia with sweet spirit of nitre, at bed-time, and so soon as the remission occurred, full doses of sulphate of quinia; this last continued in diminished doses until convalescence was fully established. When the pectoral complication was serious, turpentine stupes, or mustard and mush poultices, were applied to the chest, and the muriate of ammonia exhibited. In this connection it may not be amiss to note that, where the lungs were seriously involved, there was less intense pain in the head, and conversely. Blood was in no instance taken.

In some instances the combination of solution of sulphate of morphia and the spirit of nitric ether, a sedative diaphoretic operating like the Dover's powder without producing its nausea, acted like a charm, while it failed in others to do so. The impression left on the writer's mind was, that opium, though admirably suited to those cases in which there was no pulmonary complication, was not adapted to those in which there was the very tenacious secretion or exudation, of the difficulty in getting rid of which so many patients complained. As a rule, however, it was a most valuable remedy. So too with the sulphate of quinia. Just so soon as there was a febrile remission, the careful introduction of this medicine until fifteen or eighteen grains had been taken, was attended with the happiest results, and this, no matter in what form the disease manifested itself, in the head, the chest, or even in arthritic swellings. In one instance in which the disease appeared to be in its forming stage, the full antiperiodic dose of quinia appeared to entirely arrest its further development. Of course how far this result was due to the medicine exhibited must be but conjectural. As has been intimated, in no instance was the abstraction of blood thought proper. To the writer this seemed forbidden both by the etiology and pathology of the disease as well as by the obvious symptoms. Even where there appeared to be great pulmonary congestion, the application of the turpentine stupe, a

most convenient and powerful derivative, was deemed preferable to the use of cups, either wet or dry.<sup>1</sup>

Thus far in referring to this disease I have limited myself to the description of its phenomena as presented in the late epidemics. As has been already remarked, these correspond most accurately with those recorded as occurring in former epidemics, the record extending over a period of three and a half centuries. That wonderful observer, Sydenham, gives us an accurate description of the epidemic as it prevailed in the year 1675. Attributing the gravity of the disease to the epidemic fever with which it was associated, and not to the mere pulmonary inflammation, he makes the following instructive statement: "Bad as might be the stitch in the side, or the difficulty of breathing, and pleuritic as might be the character of the blood, the treatment was the treatment that squared with pleuritic fever, and not the treatment that squared with true pleurisy." After some judicious remarks on those modifications of pleurisy which forbid the lancet, he utters the following words of wisdom: "And here I must again remark, that in the treatment of fevers, the physician who does not keep continually before his eyes the constitution of the year, the extent to which it favors the production of this or that disease, and the power it has of twisting to its proper shape and likeness all the other concurrent diseases of the time, wanders wildly in a maze without a clue."

<sup>1</sup> In this epidemic (1889-90) much the same treatment has been found satisfactory. In the early febrile stage the neutral mixture (*Liq. Potass. Citrat.* U. S. P.) with a drop or two, *not more,* of tincture of Aconite root every three hours was given with advantage. To promote sleep a teaspoonful of *purgative Tinct. Opii, Camphorat.* with one of sweet spirit of nitre, repeated if necessary in the night was often all that was needed. Where the cough was more persistent a mixture containing in each dose gr.  $\frac{1}{16}$  of acetate of morphia with syrup of orange and water was given; to which in some instances muriate of ammonia was added. Quinia was used as above, and later in smaller doses as a tonic. In a few instances *antipyrine* in five grain doses, *repeated but a few times,* was given with advantage where intense pain in the head or elsewhere existed. But as a rule antipyrine and all its depressing relatives of the coal tar family if used at all were used with extreme caution. So too with *digitalis*, the injudicious use of which may readily destroy a feeble patient's life. The disease is a self limiting one with a tendency to recovery, and that treatment will be most efficient which is most simple and which carefully avoids any drug that will further depress the already lowered tone of the system. For the wretched weakness left after the acute symptoms have subsided some forms of malt for men—ale or beer, and Tokay wine for women—were found very helpful. A change of air, to the seaside for instance, rapidly promoted convalescence.—*Note to Reprint.*



I have already referred to the intense mental depression which was present in the cases coming under my notice in the late epidemics. This was a more constant and more distressing symptom than the pulmonary complication, indeed it was often present without any accompanying pulmonary lesion. Pectoral disease, though a very frequent, is by no means a constant complication of influenza, and not an essential phenomenon. This has been noticed in the late epidemic, and in many previous ones. Thus, in an account of the epidemic of 1782, by Dr. Edward Gray, F.R.S., whose paper is a compilation from letters received from a large number of the most distinguished physicians of that time: the testimony on this point is very clear and decisive. I need quote but one of these—Dr. Gilchrist, of Dumfries, writes: “In many of the cases of influenza of this year there was *no cough, no sneezing*, nor any defluxion showing a particular affection of the *membrana Schneideriana*, so that the disease might have been mistaken for the ordinary kind of fever frequently occurring in this country (in which there is often a tendency to rheumatic or pleuritic symptoms), if it had not been attended with the unusual sickness and oppression observed in the catarrhal fever, and frequently with disorder in the *primæ viæ*.” Dr. Pearson, in his account of the epidemic of 1803, is equally conclusive on this point. He demonstrates very clearly that this pulmonary affection is due “to the changes of temperature and other sensible qualities of the atmosphere as giving rise to the predominance of a certain set of symptoms at one time rather than another. Thus in frosty weather, and during northerly and easterly winds, the catarrhal and peripneumonic affection will be most conspicuous, while in warm weather, and during westerly and southerly winds, the headache, sickness, disordered bowels, glandular swellings, &c., will constitute the most urgent symptoms.” Similar testimony is borne by the elder Dr. Warren, of Boston, by Sir Henry Holland, by Drs. Graves, Watson, and others.

I have dwelt on this subject longer perhaps than may seem necessary, because I consider that it has an important practical bearing.

In the popular, and to some extent in the professional mind also, *Influenza* is associated, if not identified with *Catarrh*, and from the prominence given to it, it is to be feared that in the treatment, this, the most conspicuous phenomenon of the disease, claims the chief attention of the physician, while the far more important, but less obvious specific fever, upon which its existence depends, or by which its therapeutical relations are greatly modified is neglected; a treatment instituted which, however well suited to the ordinary forms of pulmonary inflammation, does not, to use the words of the immortal Sydenham, “square with pleuritic fever.”<sup>1</sup> For, as I think has been clearly demonstrated, influ-

<sup>1</sup> This idea that Influenza was merely an epidemic coryza or catarrh had a



enza is essentially a fever, as much so as is enteric or typhus fever, though more ephemeral in its duration.<sup>1</sup> Like typhoid fever, it has its peculiar cause, peculiar phenomena, peculiar course. Like typhoid fever, or even much more so, for the most part it affords a favorable prognosis; but, like this, it may prove fatal from becoming complicated with serious enteric or pulmonary disease, or like the terrible epidemics of typhus and typhoid fevers with which we are sometimes visited, it too may put on a fearfully malignant and pestilential character. That this view of the nature of influenza is the correct one, no one, I think will question who has carefully studied the disease at the bedside, or who is at all familiar with its past history. Not to weary the reader with numerous quotations, I shall but adduce the following from Pearson, who in his account of the epidemic influenza of 1803, writes: "From this sketch of the disorder it is evident that the epidemic differs from a common catarrh in the degree and kind of fever with which it is accompanied; and that, as it is the fever which constitutes the essence of this disease, and not the catarrh, it should be denominated *epidemic catarrhal fever*, or *synochus catarrhalis*, and not simply epidemic catarrh. As it is the fever which constitutes the essence of the disease, our first attention should be directed to it, and not to the cough (except when accompanied with pneumonic inflammation), otherwise by prescribing only for one of its symptoms, we shall make but little impression upon the general morbid affection."

Unfortunately, as yet, we are unable to detect the nature and character of this peculiar morbid cause, as, indeed, we are that of many other fevers. All that we can at present do is to watch, and note carefully the peculiar circumstances under which the epidemic catarrhal fever is developed, and the peculiar phenomena which each epidemic presents. In the popular mind, as already intimated, its prevalence is identified with the cold and damp weather of our winter and early spring months. Certain it is that with us it has especially occurred at such times. But this epidemic fever is by no means limited to these seasons of the year. It has prevailed with equal violence in the height of summer and in the depth of winter, at sea and on land.

That it is not due to contagion, will I think, be readily admitted. The wonderful rapidity of its invasion and extension to vast numbers

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much stronger hold on the professional mind twenty-five years ago than it now has. Even so accurate an observer as the late Professor Wood in the first edition of his "Practice of Medicine," thus treats of it. In later editions this chapter was entirely rewritten and the disease treated of as we now regard it.—*Note to Reprint.*

<sup>1</sup> See Clinical Lectures, by W. T. Gairdner, M. D., &c. Edinburgh, 1862.

of people, and the fact that one attack of influenza gives no immunity from subsequent attacks, are both opposed to the laws of contagion. We group together, under the name of *epidemic influence*, the morbid agencies, be they what they may, which are concerned in the production of this disease, and contenting ourselves with this, we have next to consider how the phenomena of the disease are developed by it. Here, too, we are compelled to rest satisfied, rather with speculation than with positive demonstration. So rarely have deaths occurred from the ordinary form of this fever, uncomplicated with the results of previous disease, that it is almost impossible to decide how much of the pathological appearances presented are due to the former, and how much to the latter condition. In the only fatal case occurring to me, the patient had been an invalid for more than forty years, and the post-mortem inspection was made rather with reference to this long-continued disorder than to that which was the immediate cause of death. And yet, on comparing my notes of the appearances in this case with those reported by others as found after death from this fever, and which at the time my record was made were unknown to me, I am astonished at the perfect identity which they present. Dr. Graves' reports slight redness of the air-passages, a discoloration of the parenchyma of the lung, smooth to the touch, the lung tissue soft and breaking up under the finger, without any of the odor of gangrene, with no evidence of red hepatization or of suppuration, dark fluid blood in the cavities of the heart, lung highly oedematous, with old pleuritic adhesions. Those of my medical friends who assisted in the post-mortem examination will agree with me that, had the Dublin professor been with us, he could not more accurately have described the specimens then before us than he has done in the paragraph above quoted. This may be a mere coincidence, and yet I cannot but believe that the condition of the respiratory organs here described is that which often exists in cases of influenza, complicated with pulmonary disorder. Not a condition of exalted, but of depressed vitality, and that in many instances (of course not in all) the moist rales which are heard are not those of pneumonia, or of bronchitis, but of *adema of the lung*.<sup>1</sup> As was mentioned in the early part of this paper, they are not the fine crackling rales of pneumonia, nor yet the coarse moist rales of bronchitis, but something between the

<sup>1</sup> System of Clinical Medicine, Am. ed., p. 473 *et seq.*

<sup>2</sup> The physical signs noted in the epidemic of 1889-90, were those suggesting a *want of power* in the air cells fully to expand, a sort of *dry crumpling*, if such a term may be used. As a result of this want of expansion there was some dulness on percussion over the affected lung, "an imperfectly developed pneumonia," as it is called on page 6. In some rare cases oedema of the lung did exist.—*Note to Reprint.*

two, very closely resembling, if not identical with the recognized rules of pulmonary oedema. If, for the sake of argument, this proposition be admitted, how are we to account for their production? Dr. Graves, without noticing in this connection the condition I have alluded to, refers the dyspnoea in this disease to some impression made on the vital activity of the lung. Quoting the well-known experiment of Dr. Reid, to show that when the eighth pair of nerves is divided the animal is slowly suffocated, and on dissection the lungs are found engorged, and the bronchial mucous membrane congested and inflamed, he asks, "May not the affections of these parts in influenza be sometimes induced by *lesions of the nervous power* in the lungs?" In this view, he writes, he is sustained by Dr. Blakiston, who, in his Treatise on Influenza, "states that his researches have led him to the conclusion that influenza is an affection of the nervous system, with its concomitant derangements of the organs of digestion, circulation," etc.

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Accepting the view given by Drs. Graves and Blakiston of its pathology, we can readily explain many of the phenomena of this disease which would otherwise be unintelligible. We can comprehend how, when the force of the poison is expended chiefly on the sensorium, we may have buzzings, giddiness, faintness, intense headache, delirium, insomnia. When upon the respiratory centres, we have dyspnoea, passive congestions, pulmonary oedema, and the enfeebled lung left exposed to the assaults of inflammatory or other disease.

So, too, with the various anomalous symptoms with which the history of every epidemic of influenza is replete. In some individuals the glandular system is peculiarly obnoxious to attack, and we have swelling of the parotid, or submaxillary glands. In others the articulations; and we have symptoms closely allied to those of rheumatism, but still retaining the characteristic symptoms of influenza, as evinced by the prodromes, by the pulse, the tongue, and general condition of the nervous system. Where the poison is less concentrated or the forces of the system are able to resist its full development, the morbid influence will be limited to a sense of weariness, pains in the back, and general *malaise*. In some instances, acting as a determining cause, this same influence may "*develop particular diseases incident to particular persons*," clothing them in its own peculiar garb.<sup>1</sup> This last tendency

<sup>1</sup> This tendency "*to develop particular diseases incident to particular individuals*" was very noticeable in this epidemic (1889-90). It seemed to awaken maladies which had long lain dormant in the system, whether these were of a malarial or rheumatic origin. In a little child who six months before had recovered from whooping-cough an attack of influenza developed, a cough almost identical with that of pertussis which disappeared as the attack of *Influenza* subsided.—*Note to Reprint.*

has been noticed by many of the older writers; thus Dr. Warren (1789-90) says the influenza often assumed the form of rheumatic affection. Dr. Rush (1789, '90, '91) writes: "I saw one case of ischuria, one case of pain in the rectum, a third of anasarca, a fourth of palsy of the tongue, all of which appeared to be anomalous symptoms of influenza; some had pain in one eye." Dr. Gairdner, of Edinburgh, in his valuable *Clinical Lectures*, has especially called attention to this effect of influenza on other diseases. He states that "by the influenza of 1847-8, the whole mortality was increased one-seventh; it doubled the deaths from bronchitis, largely increased those of other acute diseases of the chest, while the aged and the very young, the apoplectic, paralytic and consumptive suffered out of all proportion to the rest of the population. These deaths, though not set down as due directly to influenza, were doubtless due to the epidemic influence of influenza."<sup>1</sup>—and so, too, it has been with every epidemic of this disease.

Dr. Haygarth (the author of the admirable paper on "Nodosities of the Joints"), in the year 1775, writes of this disease:—

"The most common anomalous complaint was a diarrhœa with blackish stools; sickness and vomiting occurred less frequently. I saw five patients who had fallen down in a swoon, preceded by a violent headache. \* \* \* The fifth of these was a married lady who, without a preceding cough, had a very violent looseness, succeeded by a phrenitic delirium, and then by a very urgent cough, the looseness, delirium, and cough succeeded each other alternately twice over in a regular manner, but never existed together."

It may seem visionary thus to class under the one head of influenza phenomena so diverse, but the evidence which has come under my observation, during the late epidemic, on this point, is to me irresistible, and the testimony of all the authorities is conclusive. Sir Henry Holland, in his classical "Notes and Reflections," has, in connection with this subject of influenza, expressed himself very decidedly thus:—

"The simultaneous or rapidly successive influences of a common morbid cause over large communities, disclose relations which in no other way are equally accessible to research. In showing the various forms which a single disease is capable of assuming, it illustrates the nature and action of the circumstances which thus modify it, and especially the effect of particular textures in altering the aspect of the symptoms. It is probable that we may hereafter learn from it the virtual identity of many diseases hitherto placed asunder by distinctions which have foundation only in subordinate symptoms, thereby disguising from us what is most important in pathology and practice. Or, if no such identity be proved, we may find evidence scarcely less curious,

<sup>1</sup>This was sadly true of the epidemic of 1889-90. In one week in Philadelphia it brought the bill of mortality above 700, nearly or quite double that of the corresponding week a year before.—*Note to Reprint.*



of an epidemic state of constitution which, originating with the same causes that produce influenza, renders the body for a period more prone than usual to certain diseases, the material causes of which are ever more or less present."

Before concluding this paper, I may perhaps be permitted briefly to direct attention to one or two phenomena of the late epidemics which have been but slightly if at all referred to. I have already alluded to the sudden invasion of the disease, the intense pain in the head, and the great depression of spirits; these, therefore, need not claim further notice. The occasional occurrence of *cutaneous eruptions* was observed in several cases of influenza during the present year. In one or two instances the exanthem covered the whole body. Viewed at a distance it was not unlike the eruption of measles; but on a more careful inspection it seemed to be that of *lichen tropicus*. In another case the eruption resembled a scanty crop of urticaria. Other cases have been reported to but not seen by me. This phenomenon has been noticed in almost all preceding epidemics; thus Huxham, 1743, writes: "Frequently, towards the end of this epidemic, several red angry pustules broke out." Whytt, 1758, reports an imperfectly developed rash, which disappeared when the cough set in. Baker speaks of the preliminary pains as resembling those of an eruptive fever, and mentions the occurrence of a miliary eruption. Rutty, 1762, notes an efflorescence like that of measles, with violent itching; later cases with petechiæ, though the miliary type was most common. Heberden, 1775, saw two cases of influenza in which there was an eruption like that of scarlet fever. Haygarth, 1775, reports a red itching rash. Dr. Gray, 1782, reports "watery blisters about the upper part of the body, swellings on the face and other parts, attended with considerable soreness, apparently erysipelatous, and a miliary eruption like the chicken-pox." Dr. Carmichael Smyth, 1782, says: "Some had erysipelatous patches, or efflorescences on different parts of the body, which, in one instance, terminated in gangrene." He observed petechiæ in one instance. Dr. Rush reports erysipelatous and miliary eruptions in the epidemic influenza which prevailed in Philadelphia in the years 1789, '90, '91. Canstatt refers to similar eruptions, and mentions the occurrence of petechiæ. Other illustrations might be readily adduced.

The grade of the epidemic catarrhal fever is, in most instances, that which I have described. Occasionally, however, it goes a degree further in the downward scale, and assumes the form of a putrid fever, with all the marks of septicæmia.

This change of type is in perfect parallelism with that of the other specific fevers. We see it occurring in enteric and scarlet fevers, in erysipelas, and in smallpox. Take scarlatina, for instance; how often

do we have this disease prevail as an epidemic so mildly as to need no further care from us than that we should watch against accidental lesions, the tendency, perhaps, an adynamic one, and yet exhibiting itself only by general debility, how often, alas! on the other hand, do we have the disease putting on that fearfully malignant form of blood poison, imperfect eruption, petechiæ, sordes, with fierce delirium, or, with coma, ending in death, a result which all our resources are unable to avert? Not only do entire epidemics assume this form, but we are occasionally startled from our fancied security in the midst of the mild form of the disease, which I have described, by the sudden occurrence, here and there, of sporadic cases of scarlet fever in its most malignant form. Nor, strange to say, are these putrid cases always found among those individuals who, from congenital or acquired infirmity of constitution, would have been supposed especially liable to this form of the disease. In such cases, we have the disease assuming an adynamic, or typhoid form; but I am sure I will be sustained in the assertion, that, where we would have least expected it, scarlatina, at times, puts on its most malignant type.

Epidemic catarrhal fever, like scarlet fever, is a special fever, due, like scarlatina, to some special cause, and, like scarlatina, amenable to special influences; hence it, too, like scarlatina, may assume a malignant or putrid form.

We have, at this time, as is well known, in our immediate community, and in different parts of our country, a malignant fever prevailing. We have, also, as has been shown, a wide-spread epidemic of catarrhal fever.

So far as I can recall the descriptions given of this fever, at a meeting of the Philadelphia College of Physicians, March 4th, 1863, it would seem that its prominent symptoms are a sudden attack from entire health, a chill, intense pain in the head or the back of the neck, intense pain in the back, wild delirium, coma, great prostration, imperfectly developed petechial eruption, a rapid course and death. After death extravasations of blood are found in various tissues, with passive, hypostatic congestions. It would appear that no age or condition of life is exempt, it having proved alike fatal to the infant at the breast, and the aged grandmother of eighty.

After hearing this description, I ventured to inquire whether the cases reported might not be but a *malignant form* of the fever which was then prevailing in our midst. I was led to this inquiry, reasoning on these general principles—that “the catarrhal fever” was the only fever to any extent epidemic among us, that this malignant disease did not correspond with any one of our endemic fevers, while it had many symptoms which were common (though not peculiar), to this, and that it derived its entire importance from the putrefaction which the blood

had undergone, a pathological change which might occur in any fever, this as well as the others. I then had and since have seen no cases of this malignant fever, and therefore, neither then nor since, have pretended to give any positive opinion respecting it.<sup>1</sup>

Nevertheless, I cannot forbear putting on record, as an interesting coincidence, the fact, that the epidemic influenza of 1863, which, as I have shown, presents in its varied phenomena so many points of resemblance

<sup>1</sup>The "malignant fever" here referred to, which, new to the medical men of that generation, was then imperfectly understood by them, proved to be *epidemic cerebro-spinal meningitis*, or as it is now more correctly called *epidemic cerebro-spinal fever*. It happened to the writer to see a great deal of this terrible disease, and it fell to his lot to write the report to the American Medical Association of the Committee on "*Spotted Fever, so-called*," printed in *The Transactions*, Vol. 17th, p. 311 *et seq.* In that paper he has given his views on the relationship subsisting between this disease and influenza. The observations of a quarter of a century have but confirmed in his mind the opinion there expressed: that there is a *very close relation* between epidemic influenza (epidemic catarrhal fever) and epidemic cerebro-spinal meningitis (epi' cerebro-spinal fever) that this is seen not only in the resemblance in their symptoms which differ in degree rather than in nature, but also in the fact that for three centuries at least the two diseases, if they be two, have occurred coincidently with each other or in close sequence. Only in this way do some of the many cases of sudden death which occurred in this and former epidemics become intelligible to us.

These views which the writer timidly presented in his early medical life, he now a quarter of a century later with confidence commends to the thoughtful consideration of the profession.

The very mild weather of this winter has given us fewer cases of cerebro-spinal meningitis than would have happened had it been a severely cold winter, but as if to show that this epidemic has been no exception to former ones I find the following in *The Philadelphia Times* for January 27th, 1890, taken from *The Cincinnati Enquirer*:

"WORSE THAN DEATH—THE AFFLICTIONS THAT FOLLOW IN THE WAKE OF THE SCOURGE. —The epidemic of *cerebro-spinal meningitis* is still raging in various portions of Webster County, Ohio, and its fatality is nearly as great as for some weeks past, while those who are recovering from the fearful malady are suffering from various afflictions, many of them being left worse off than if death had come.

"The majority of the cases within the past two weeks have been children, about two-thirds girls. While a number of deaths have occurred, many of the children are suffering from what are considered permanent afflictions. Some have been crippled in their limbs, other having completely lost their powers of speech and hearing, while others are unable even to sit up in their beds. Many of the families have left the county and others are preparing to do so as the skill of the best physicians has proved in vain."

*Note to Reprint.*

to those of former epidemics, completes the analogy by occurring simultaneously with the prevalence of a putrid fever, a concurrence which has been noticed from the earliest times. Of this last fact I was not aware when I put the question I have referred to, my attention having never been especially directed to the literary history of the disease. Since then I have carefully investigated the subject, and with the evidence thus obtained will close my paper.

Short, in describing the influenza of the year 1557, writes: "Some had swellings of the throat, bleeding at the nose, some had spots." Forestus relates that the epidemic catarrhal fever of 1580 was "complicated with a malignant fever or plague." Willis, in 1658, mentions as one of the attendants of the epidemics of that year, "a bloody flux;" he adds, "the fever growing worse it is to be healed according to the rules to be observed in a putrid fever." Another author, of the same year, describes "a new fever affecting the brain and nervous stock." In the epidemic of 1762, Rutty describes the catarrhal fever as "beginning in May, and in the months of June, July and August, it showed itself in the form of a putrid fever; sometimes attended with petechiæ, sometimes with a miliary eruption. In October and November of the same year, there was a remarkable increase of fevers, both as to numbers and malignity; they were mostly of the low type, often petechial and sometimes miliary; several of them were attended with hemorrhages and other marks of colliquation." Fothergill, describing somewhat similar cases in the epidemic influenza of 1775, writes: "*a few died phrenitic*." In the same year sloughs on the tonsils are recorded by Cummings as attending this disease. Dr. Glass, of Exeter, mentions malignant sloughs on the tonsils, with swellings of these, and of the submaxillary and parotid glands. So convinced is he of its malignant character that he calls it the epidemical catarrhus *semi-pestilential fever*.

Dr. Skene, of Aberdeen, relates that though the influenza prevailed in his town, it did not visit Frazerbrough near by, *though there was a putrid fever there very fatal at that time*.

Dr. Gray, describing the influenza of 1782, relates that "watery blisters, with considerable soreness, apparently erysipelatous, and others of a different nature forming abscesses, were sometimes observed. In some instances a painful swelling of the abdomen constituted the most disagreeable symptom of the disorder. In others there were remarked evident signs of a tendency to putrefaction, and in one case the disease seems to have put on the form of nervous fever." Dr. Macqueen, of Great Yarmouth, writes the same year: "A gentlemen from Cambridge University assures me that, in the opinion of many, the disease there put on more or less of a putrid type, for, besides the extreme debility, the mouth and fauces were generally covered with black viscid sordes."



Dr. Ruston, of Exeter, goes even further; he states that "in some instances there seemed evidently a strong tendency to putrefaction, the fauces and throat were excoriated, the tongue very foul, having that kind of foulness common in ulcerated sore throat, and in several patients in the hospital who had foul ulcers or were of a bad habit of body, that epidemic proved of the putrid kind. \* \* \* \* Several died with strong marks of putrefaction." Dr. Mease, of Strabane, writes: "I thought I should have lost one young patient of influenza, and you may be surprised at my mentioning him as an instance of the disease, when I tell you that his symptoms were those of a nervous fever, yet I think I am justifiable in so doing." Dr. Scott, of Stamfordham, states that "about six weeks from its first appearance, the epidemic catarrhal fever seemed gradually to verge towards the low and putrid." The same report is given from the Isle of Man. The Chevalier Rosa, professor at Modena, pronounces the influenza to be "*une veritable peste*." Dr. Carmichael Smyth mentions cases of influenza "in which there were erysipelatous patches or efflorescences \* \* \* which, in one instance, terminated in gangrene." He noticed petechiæ in one instance. In an account of influenza published by the London College of Physicians at this time, after describing the ordinary symptoms of the disease, it is stated that the occurrences were, "in some few, an unusual disposition to sleep, in others strangury independent of blisters, and in some instances, attended with bloody urine for three or four days, hemorrhage from the nose, &c.

Dr. Rush, referring to the epidemic catarrhal fever as it prevailed in Philadelphia, states that "in some cases there were erysipelatous eruptions, and in four cases miliary eruptions followed. In a few persons the fever terminated in a tedious and dangerous typhus."

In the epidemic of 1803 Dr. Fraser writes: "About the same time that the influenza made its appearance, a most malignant fever, having some symptoms in common with influenza, began to rage, which has proved fatal to hundreds. Pearson reports similar symptoms. Dr. Johnstone reports in this epidemic two malignant cases, both of whom died.

Ricketson, describing the epidemic of influenza as it prevailed in New York in the year 1807, relates that the pains in the back and limbs were like those of typhus, and records the occurrence of diarrhœa, hemorrhages from the bowels, from the lungs, from the nose, and from the uterus. Dr. Clendenning reports similar malignant symptoms in the epidemic of 1836-7. Dr. Holland reports similar tendency in the epidemic of 1837.<sup>1</sup>

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<sup>1</sup> A little further on, in the same connection, Dr. Holland's words are: "A fever, accompanied in almost every case by a rash like that of measles, was

Such is the testimony of more than three centuries on this subject, a testimony remarkable for the concurrence of the facts recorded.

More recently in our own country similar descriptions may be found of this malignant form of disease, which the epidemic influenza sometimes assumes. I shall quote but two illustrations. That of Assistant Surgeon McParlin, who, writing from Las Vegas, New Mexico, remarks that since the middle of December this and the adjoining towns have been visited with an epidemic catarrh of quite a malignant character. He then describes the ordinary symptoms of the disease, and later its malignant form. Surgeon S. P. Morse, writing from West Point, N. Y., states that "the *epidemic catarrhal fever* prevailed at that post December, 1858," and adds that "the inhabitants of the neighboring country have suffered much by the prevalence among them of a fatal disorder named *the black tongue*."

I shall not pursue this subject further. Enough has been adduced to show that the epidemic influence of influenza, if the tautology may be permitted, though ordinarily manifesting itself in a mild form of disease, is yet capable of developing symptoms of the gravest character, and that in all ages its periodical visitations have preceeded, accompanied, or succeeded epidemic diseases of the most malignant and pestilential character.

PHILADELPHIA, April 1st, 1863.

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very frequent in London after the greatest violence of the influenza in 1837. Again during the early months of 1838, and concurrently with, as well as subsequently to, the influenza then prevailing in London, the same character of low or adynamic fever existed to considerable extent and fatality, attended with an eruption, sometimes of scarlet, more frequently of dusky red spots. Instances of this nature are very frequent in medical history." See Holland, *op. cit.*, p. 94.





